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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.

FCC 95-319

In the Matter of)
)
Allocation of Spectrum Below) ET Docket No. 94-32
5 GHz Transferred from)
Federal Government Use)
)
4660-4685 MHz)

SECOND REPORT AND ORDER

Adopted: July 31, 1995

Released: August 2, 1995

By the Commission:

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I. INTRODUCTION

1. By this action, the Commission creates the General Wireless Communications Service (GWCS), and adopts rules for licensing of this service in the 4660-4685 MHz band. The 25 megahertz of spectrum in the 4660-4685 MHz band was transferred from Federal Government to private sector use and was allocated to the Fixed and Mobile services in the First Report and Order in this proceeding adopted February 7, 1995.¹ Designating this spectrum for use by a new General Wireless Communications Service will benefit the public by permitting and encouraging the introduction of new uses and the enhancement of existing uses. These new and enhanced uses will create new jobs, foster economic growth, and improve access to communications by industry and the American public.

II. BACKGROUND

2. The Omnibus Budget Reconciliation Act of 1993² (Reconciliation Act) required that the Secretary of Commerce identify 200 megahertz of spectrum then allocated for use by Federal Government agencies that could be transferred to private sector use. All of the 200 megahertz of spectrum recommended for reallocation had to be located below 5 gigahertz, with at least 100 megahertz of this being below 3 gigahertz. The Reconciliation Act also required the Secretary of Commerce to issue within six months of its enactment a report making a preliminary identification of reallocable bands of frequencies and to issue within 18 months a final report recommending the spectrum for reallocation.³ In its report making a preliminary identification of spectrum, the Department of Commerce was required to identify at least 50 megahertz of spectrum for immediate reallocation.⁴ The remaining spectrum was required to be made available over a ten-year period.⁵

3. In accordance with the requirements of the Reconciliation Act, on February 10,

¹ Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use, ET Docket No. 94-32, First Report and Order and Second Notice of Proposed Rulemaking, 10 FCC Rcd 4769 (1995) (Report and Second NPRM).

² Omnibus Budget Reconciliation Act of 1993, Pub. L. No. 103-66, 107 Stat. 312 (enacted August 10, 1993) (Reconciliation Act).

³ See Reconciliation Act, § 6001(a)(3), as codified at 47 U.S.C. § 923.

⁴ At least one-half of the 50 megahertz identified for immediate reallocation must be below 3 gigahertz and all of it must be identified for exclusive non-Federal use.

⁵ Reconciliation Act, § 6001(a)(3), as codified at 47 U.S.C. § 923(e)(2)(A).

1994, the Department of Commerce released its report making a preliminary identification of spectrum for reallocation (Preliminary Report).⁶ The frequency bands identified for reallocation in the Preliminary Report are listed in Appendix A of the Preliminary Report. Three of these frequency bands, 2390-2400 MHz, 2402-2417 MHz, and 4660-4685 MHz, were identified for immediate reallocation and are now available for private sector use.⁷ The Reconciliation Act also required that the Commission allocate, and propose regulations to assign, the 50 megahertz of spectrum that is immediately available no later than 18 months after its enactment (i.e., by February 10, 1995).⁸

4. On May 4, 1994, the Commission released a Notice of Inquiry in this proceeding seeking information on potential applications for the 50 megahertz of spectrum transferred from Federal Government use.⁹ Following this, we released a Notice of Proposed Rule Making on November 8, 1994, proposing that all 50 megahertz of the transferred spectrum be allocated to Fixed and Mobile services.¹⁰ The Commission subsequently adopted a First Report and Order and Second Notice of Proposed Rule Making on February 7, 1995.¹¹ In the Order, the Commission allocated the 2390-2400 MHz band for use by unlicensed Personal Communications Services (PCS) devices, provided for continued use of the 2402-2417 MHz band by devices operating in accordance with Part 15 of our Rules, upgraded the allocation of both of these bands for use by the Amateur service from secondary to primary, and allocated the 4660-4685 MHz band for use by Fixed and Mobile services. The Second NPRM proposed to designate the 4660-4685 MHz band for use by a new service, GWCS.

5. We received 13 comments and five reply comments¹² in response to the Second

⁶ Preliminary Spectrum Reallocation Report, U.S. Department of Commerce, NTIA Special Publication 94-27, Feb. 1994.

⁷ By letter dated October 27, 1994, the President notified the Chairman of the Commission that Federal Government frequency assignments in these bands have been withdrawn and that the National Table of Frequency Allocations has been modified to reflect the reallocation of these bands.

⁸ Reconciliation Act, § 6001(a)(3), as codified at 47 U.S.C. § 925(a).

⁹ Notice of Inquiry, ET Docket No. 94-32, 9 FCC Rcd 2175 (1994) (NOI).

¹⁰ Notice of Proposed Rule Making, ET Docket No. 94-32, 9 FCC Rcd 6779 (1994) (First NPRM).

¹¹ Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use, ET Docket No. 94-32, FCC 95-47, released February 17, 1995 (Order and Second NPRM).

¹² Comments and reply comments received that relate only to the 2390-2400 MHz band and the 2402-2417 MHz band are not included in these numbers. A companion Report and

NPRM for use of the 4660-4685 MHz band.¹³ Several parties interested in providing commercial services support our proposal for GWCS with licenses assigned by competitive bidding.¹⁴ Parties opposing the designation of the 4660-4685 MHz spectrum for GWCS have provided information regarding specific services that they believe should receive a specific allocation in the 4 GHz band.¹⁵

III. DISCUSSION

A. Service Rules

6. **Background.** In the Second NPRM in this proceeding, the Commission proposed to create a new service, the General Wireless Communications Service (GWCS), for licensing of the 4660-4685 MHz band. This new service would allow a licensee to provide a range of Fixed or Mobile services. As stated in the Second NPRM, GWCS would provide licensees an opportunity to use the spectrum flexibly in order to meet the needs of consumers. For example, licensees could use this spectrum for dispatch service, point-to-point microwave, aeronautical audio and visual service, wireless local loop services, and terrestrial fixed and mobile auxiliary broadcast operations. Services that would not be within the proposed GWCS category included Broadcast services, Radiolocation services, and Satellite services (including the Mobile Satellite Service).¹⁶

7. We proposed to establish the flexible GWCS service classification in order to enhance the ability of service providers to meet a variety of user needs. We tentatively concluded that a flexible allocation of this spectrum would likely generate the highest and best use of the spectrum and ensure that it is used for services that are highly valued by licensees and their customers, whether the ultimate use is for private or commercial use.¹⁷ We also acknowledged the possibility that these needs might better be accommodated by rules that prescribe the use of the 4660-4685 MHz frequency band only by specific services. Interested parties who opposed our proposed establishment of a GWCS category were asked to suggest ways in which use of the 4660-4685 MHz band could be limited to specific services. For example, we sought comment on (1) what services should be treated as eligible;

Order is being issued to cover the issues concerning those bands.

¹³ See Appendix A.

¹⁴ Comments of ATI, Bell Atlantic, Ladybug, Leaco, PCIA, and WCAI, In-Flight Reply Comments.

¹⁵ Comments of API, APCO, and MSTV.

¹⁶ Second NPRM, at paras. 46, 60.

¹⁷ Second Notice, at para. 60.

(2) whether we should divide channels in the band in a manner which assigns Fixed services exclusively to certain channels and Mobile services exclusively to other channels in the band; (3) whether we should establish priorities for Fixed service or Mobile service use of some or all of the channels established in the band; and (4) whether we should assign some or all channels established in the band for exclusive use by private Fixed or Mobile Services.¹⁸ Proponents of this alternative approach for designating services in the 4660-4685 MHz frequency band were asked to provide facts and arguments supporting their view that such an approach would better serve the Commission's objectives and the public interest than would the establishment of GWCS, which would permit use of the spectrum for these as well as other applications.¹⁹

8. **Comments.** The majority of commenters support the designation of the 4660-4685 MHz band for the flexible GWCS category. ATI, PCIA, Leaco, Bell Atlantic, WCAI, In-Flight, and the SBA all expressed support for GWCS. WCAI applauds the proposal as offering the greatest possible incentive and opportunity to develop and introduce innovative service offerings based on emerging new technologies, and suggests that the Commission adopt rules governing the 4660-4685 MHz band that generally permit the licensee flexibility to use the spectrum as it sees fit within its geographic area, subject only to compliance with interference protection requirements. WCAI further states that an open, flexible service definition for the 4660-4685 MHz band will provide the most effective approach for achieving universality, speed of deployment, diversity of services, and competitive delivery.²⁰ The SBA describes the allocation as "Solomonic," given the diversity of views in the record on the appropriate use of the band.²¹ Bell Atlantic states that the proposed rules are consistent with the goal of promoting innovation and the best use of the available spectrum. The flexible use approach, allowing this spectrum to be used for a variety of current services and others not yet even developed would, according to Bell Atlantic, result in more efficient use of spectrum than a service-specific approach, which could cause the band to be under-utilized in some areas where demand for a particular service might be less than the available spectrum.²²

9. Entities supporting the designation of GWCS in the 4660-4685 MHz band indicate that it would allow use of the spectrum for a variety of purposes. ATI commends the GWCS proposal as a rare, possibly unique, opportunity to allow wireless cable operators to provide

¹⁸ Second NPRM, at paras 62-63.

¹⁹ Second Notice, at para. 63.

²⁰ WCAI Comments at 4-5.

²¹ SBA Comments at 2.

²² Bell Atlantic Comments at 2.

the return-channel capability they need to offer competitive, interactive information services.²³ Leaco indicates that the spectrum can be used for a variety of interactive video, voice, and data services. Leaco opposes rules limiting use of the band only to specific services, urging that the Commission allow the various GWCS services to develop before considering any allocations for specific services.²⁴ Bell Atlantic states that a flexible use approach would allow use of this spectrum for wireless local loop services, interactive video services, dispatch services, data services, and others not yet developed.²⁵ In-Flight seeks to use the spectrum to provide nationwide multi-channel live audio and video programming service to commercial airline passengers.²⁶ In earlier comments, Tadiran proposed that 4660-4685 MHz be used for in-building communications.²⁷

10. Comments opposing the GWCS, and proposing the allocation of the spectrum to specific services, were filed by API, APCO, and MSTV. API, representing the oil and gas industry, proposes that the 4660-4685 MHz band be allocated for primary fixed use and narrowband channels to replace, to a limited extent, loss of the narrowband allocation from the 2 GHz bands to Personal Communications Services (PCS). API states that telecommunications facilities such as point-to-point and point-to-multipoint systems in the Private Operational-Fixed Microwave Service are used to support the search for, production, safe pipeline transmission, processing, and delivery of oil and gas products.²⁸ TIA and Alcatel support API's proposal in reply comments.²⁹ APCO also proposes designating the band for specific uses, in particular urging that at least a portion of the band be designated for public safety mobile and aeronautical video operations. APCO states that public safety agencies do not currently have any dedicated channels for live "bird's eye view" video operations, and this capability would be valuable in various emergency situations.³⁰ MSTV contends that the 4660-4685 MHz band could best be used to support advanced broadcast auxiliary operations. It requests that the band be allocated to wideband advanced digital video services and

²³ API Comments at 1-2.

²⁴ Leaco Comments at 6.

²⁵ Bell Atlantic Comments at 2.

²⁶ In-Flight Comments at 1.

²⁷ Tadiran Comments to First NPRM at 2.

²⁸ API Comments at 9-11.

²⁹ TIA Reply Comments; Alcatel Reply Comments.

³⁰ APCO Comments at 3.

terrestrial fixed and mobile auxiliary operations.³¹ ATI proposes that the band be allocated in whole or in part for use as a return channel by wireless cable providers.³²

11. Commenters opposing GWCS contend that GWCS is technically unsound and will retard innovation in the use of this spectrum. MSTV argues that GWCS will be plagued by interference problems caused from the operation of mutually-incompatible services.³³ Opposition commenters also contend that auctioning GWCS spectrum would be unlawful. API, APCO, and MSTV argue that utilizing auctions involving a variety of fixed and mobile services would be an improper means of allocating spectrum, because auctions are permitted under Section 309(j) of the Act only to assign licenses among mutually exclusive applicants, not to determine spectrum allocations.³⁴ They also question whether auctions necessarily lead to the "highest and best use" of the spectrum. API submits that only commercial users have subscriber bases to meet proposed construction requirements and to provide funds for auction bids, while private users would not ordinarily be able to compete. API asserts that the Commission's proposal would force private users to rely on commercial providers who cannot adequately meet the needs of private users during emergencies, and generally offer more expensive and less suitable communications, or no service at all in some remote areas.³⁵ APCO contends that the use of auctions deprives state and local government public safety agencies of any opportunity to obtain new radio spectrum for critical police, fire, emergency medical, and other communications systems, because these agencies will never be able to compete with for-profit commercial entities for spectrum.³⁶

12. **Decision.** We will adopt the proposed General Wireless Communications Service for the 4660-4685 MHz block, largely as proposed in the Second NPRM. Under GWCS, licensees may provide any Fixed or Mobile service except Broadcast services, Radiolocation services, and Satellite services, including the Mobile Satellite Service. This flexible, broadly defined service should accommodate a wide variety of potential Fixed and Mobile service uses, including all of those identified by the commenters, such as voice, video, and data transmission, private microwave, broadcast auxiliary, and ground-to-air voice and video. The flexibility of GWCS should also help make frequencies available for new technologies and services, including those that have been mentioned in the current comments and those that may be developed in the years ahead. In addition, as a service category that is not limited to

³¹ MSTV Reply Comments at 7.

³² ATI Comments at 4-5.

³³ MSTV Reply Comments at 3.

³⁴ API Comments at 5; APCO Comments at 2; MSTV Reply Comments at 3, 6.

³⁵ API Comments at 5-9.

³⁶ APCO Comments at 2.

specific past and current uses, but is available for the implementation of future technologies, we expect that GWCS will encourage research and investment to invent, develop, and market new technologies, and spur their deployment to serve consumers. We are not persuaded by arguments of some commenters that this spectrum would be better employed by assignments to specific current and planned services. The flexible GWCS approach should permit a range of qualified uses, including those preferred by each of the commenters, while permitting new technologies and services to emerge and encouraging efficient use of this spectrum.

13. Under the Reconciliation Act, the spectrum reallocated from Federal Government use is to be allocated and assigned to public use under a plan that makes frequencies available for new technologies and services, and stimulates the development of such technologies.³⁷ We believe that the General Wireless Communications Service will foster the accomplishment of these goals. The record in this proceeding demonstrates that there are several new technologies and services that might make effective use of this spectrum. The flexibility of GWCS permits a wide variety of such uses to be made of this spectrum, including all the technologies and services proposed in the comments. Entities seeking to introduce these new technologies and services would have the opportunity to obtain spectrum necessary to do so. GWCS will give such new technologies the opportunity to prove themselves in competition with others in the marketplace.

14. GWCS should also foster efficient use of the spectrum. Each licensee will have the opportunity and the incentive to make efficient use of the spectrum licenses it obtains. A licensee will not be constrained to employ the spectrum for a single use. Instead, the flexibility of GWCS will encourage licensees to find ways to use the spectrum for the variety of services allowed under the license, either for its private use or to meet current and future needs of its subscribers. The most valuable uses of this spectrum also may differ in urban and rural parts of the Nation, or in regions with different industries, and may change over time. The flexibility of GWCS will permit licensees to adapt to these circumstances without the need for Commission intervention, further contributing to efficient use.

15. Of equal importance, GWCS will accommodate and spur the development of new technologies and services. The Fixed and Mobile allocation and the GWCS service category will provide a block of spectrum that will accommodate a broad range of new technologies and services, with a minimum of administrative restrictions and requirements. Inventors and entrepreneurs seeking frequencies for future technologies and services will not need to bring their proposals for use of this spectrum to the Commission and succeed in the process of obtaining changes in allocation or assignment. Rather, they will have the opportunity to negotiate with GWCS licensees to provide the new technology or service, based on the market value of current uses. If a new technology or service can make better, more efficient use of the spectrum, licensees are likely to migrate quickly to that use, especially in the

³⁷ Section 115(b)(2) of the Telecommunications Authorization Act of 1992, codified at 47 U.S.C. § 925(b)(2).

competitive market that we expect will emerge.

16. Commenters have not persuaded us that limiting assignments to any of their specific proposed uses of the spectrum would better meet the goals of the Reconciliation Act, the Communications Act, and the public interest. Restricting the 4660-4685 MHz spectrum to defined uses or services, such as the specific uses proposed by various commenters, would tend to reduce the attractiveness of this spectrum for new technologies and services. Assignment of the block exclusively to broadcast auxiliary service (BAS), as requested by MSTV, would preclude the use of the spectrum for the new services proposed in the comments, and from any future alternative technology or use that might be developed. Similarly, the request of API and other commenters to assign portions of this spectrum exclusively to fixed microwave systems would have the effect of barring its use for new technologies and services. Moreover, the representations of API that additional spectrum is needed to accommodate fixed microwave systems that will be displaced by PCS is not persuasive. This topic was the focus of much consideration in our proceeding identifying spectrum for emerging technologies³⁸ and a recent NTIA study projects that spectrum needs for long haul fixed microwave systems will remain constant or decrease slowly, and that spectrum above 15 GHz can accommodate users displaced by PCS.³⁹ Commenters have provided no substantive support to demonstrate that sufficient spectrum for relocation has not been identified. We similarly find no evidentiary basis for API's claim that its proposed allocation of the band to private fixed users is justified by any public safety needs that are not adequately met by current allocations.⁴⁰

17. Moreover, as we discussed above, GWCS is flexible enough to permit these specific uses, as well as the other uses identified in the comments. If GWCS spectrum assignment applications submitted by qualified parties now seeking service-specific allocations are not mutually exclusive, those parties will be granted licenses to provide the specific services they wish to provide, as well as other permissible GWCS services. In the event the spectrum is assigned by auction because of mutual exclusivity, they will also be able to participate and seek to obtain licenses. Private users such as the oil and gas industry companies API represents are often large, well-capitalized businesses. API presents no persuasive evidence that private users will be unable to acquire spectrum by auction to satisfy any unmet needs. For example, these companies can seek to win licenses at auction and share or sell the spectrum they don't need for their own operations. There is also no reason to expect that commercial providers will be unwilling to provide the services and facilities private users require, including emergency services. If this spectrum is auctioned, we would

³⁸ Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies, ET Docket No. 92-9, 8 FCC Rcd 6495 (1993).

³⁹ U.S. National Spectrum Requirements, U.S. Department of Commerce, NTIA Special Publication 94-31, March 1995.

⁴⁰ See API Comments at 4, 8.

expect that winning bidders would compete eagerly to provide service to private users in a cost-effective manner.

18. We also believe that any interference issues that may arise among GWCS licensees can be satisfactorily resolved by general non-interference standards and technical rules. We have eliminated many potential sources of unacceptable interference by barring use of GWCS for Broadcast services, Radiolocation services, and Satellite services. Licensees for GWCS should be able to provide other qualified Fixed and Mobile services without unacceptable interference with other users of this or other spectrum. In addition, the grant of each GWCS license will be made subject to the condition that the licensee not cause unacceptable interference with any other licensee or service. Failure to abide by this condition will render the licensee subject to fines, damages, or forfeiture of the license. We are adopting technical rules similar to those in place for PCS. To the extent it proves necessary, we can consider whether revisions to those rules are warranted after GWCS licenses are assigned.

19. We find no merit in arguments that the Fixed and Mobile allocation of this spectrum itself, and establishment of the flexible GWCS designation for assigning this spectrum, are unlawful. As we discussed in the First Report and Order, the Communications Act authorizes and Commission precedent supports allocating frequencies to more than one radiocommunication service, and assigning licenses for use by a broadly defined service.⁴¹ The Commission is required by the National Telecommunications and Information Administration Organization Act (NTIAO Act) to issue regulations to allocate the 50 megahertz of spectrum that the Secretary of Commerce identified and recommended for immediate reallocation from Federal Government use no later than 18 months from enactment of the Reconciliation Act.⁴² For purposes of this portion of the NTIAO Act, the term "allocation" is defined as "an entry in the National Table of Frequency Allocations of a given frequency band for the purpose of its use by one or more radiocommunication services."⁴³ The Table of Frequency Allocations often contains allocations to more than one type of service⁴⁴ and such allocations are specifically authorized in this instance by the NTIAO Act. Therefore, our allocation of the 4660-4685 MHz band to Fixed and Mobile Services is permissible and consistent with established practice.

20. We believe that such an allocation is consistent with the Commission's obligations under the Communications Act. The Commission has broad authority under the

⁴¹ First Report and Order, at paras. 41-54.

⁴² Section 115(a) of the National Telecommunications and Information Administration Organization Act, 47 U.S.C. § 925(a) (NTIAO Act).

⁴³ Section 111(1) of the NTIAO Act, 47 U.S.C. § 921(1).

⁴⁴ See 47 C.F.R. § 2.106.

Communications Act to allocate spectrum. Our authority derives from Section 303 of the Communications Act, which provides:⁴⁵

Except as otherwise provided in this Act, the Commission from time to time, as public convenience, interest, or necessity requires shall --

- (a) Classify radio stations;
- (b) Prescribe the nature of the service to be rendered by each class of licensed stations and each station within any class;
- (c) Assign bands of frequencies to the various classes of stations, and assign frequencies for each individual station

Nothing in the language of Section 303 establishes or suggests any limitation or restriction on the Commission's discretion to prescribe the nature of the service to be rendered over radio frequencies or authority to assign (or allocate) frequencies to the various classes of stations. Moreover, nothing in the language of Section 303 or its legislative history suggests that the Commission is prohibited from assigning spectrum to stations for more than one permissible use, or otherwise limits the Commission's discretion in making spectrum allocations that it deems to serve the public interest.⁴⁶ With respect to allocation decisions, courts have accorded "substantial deference" to Commission determinations.⁴⁷

21. Commission precedent also supports the permissibility of allocating spectrum in a manner that allows for its use by a broadly defined service. In 1986, the Commission allocated 2 megahertz of spectrum for a new General Purpose Mobile Service (GPMS)

⁴⁵ 47 U.S.C. § 303(a)-(c)

⁴⁶ We acknowledge that certain other sections of the Communications Act reflect the fact that Congress expected the Commission to utilize some amount of spectrum for particular types of services. *See, e.g.*, 47 U.S.C. § 309(b) (referring to fixed point-to-point microwave stations, industrial radio positioning stations, and aeronautical stations); 47 U.S.C. § 319 (distinguishing between amateur stations, mobile stations, public coast stations, privately owned fixed microwave stations, common carrier stations, and broadcast stations). Nevertheless, these sections cannot be read to limit the Commission's discretion to permit the use of some spectrum for more broadly defined services.

⁴⁷ *See* National Ass'n of Regulatory Util. Comm'ners v. FCC, 525 F.2d 630, 636 (D.C. Cir.), *cert. denied*, 425 U.S. 992 (1976); *see also* Telocator Network of America v. FCC, 691 F.2d 525, 549 (D.C.Cir. 1982).

accessible to all land mobile, maritime mobile, and aeronautical mobile uses.⁴⁸ In that instance, the Commission found that the GPMS allocation served the public interest.⁴⁹ The Commission rejected claims that such an allocation was unlawful, noting that "[n]othing in Sections 303(a)-(c) suggests the Commission is not permitted to take into account marketplace forces when exercising its spectrum allocation responsibilities under the public interest standard."⁵⁰ Our current approach is also similar to that taken in our Emerging Technologies proceeding, ET Docket No. 92-9. In that proceeding, the Commission allocated 220 megahertz of spectrum to the Fixed and Mobile services and identified it for use by emerging technologies. Later, we permitted PCS providers to use 140 megahertz of this spectrum.⁵¹ We disagree with the contention made by some commenters that the current approach differs from that applied in allocating spectrum for PCS.⁵² While we envision service rules designed to accommodate a variety of uses, as with PCS, we conclude that the action we take in this Order fulfills our responsibility to employ a regulatory structure that provides for use of the spectrum that is in the public interest.

22. Moreover, our allocation and service designation decisions are not so broad as to permit use of the 4660-4685 MHz band for any purpose. Allocation to the Fixed and Mobile services and designation to GWCS will allow licensees to use the spectrum to provide any Fixed service, including Aeronautical Fixed, fixed point-to-point, and fixed point-to-multipoint systems, and any Mobile service, including Aeronautical mobile, Land mobile, or Maritime mobile service as long as those services meet the interference rules established for GWCS. The allocation does not, however, allow licensees to use the spectrum for Broadcast services, Radiolocation services, or any Satellite services, including the Broadcast or Mobile Satellite

⁴⁸ Amendment of Parts 2 and 22 of the Commission's Rules Relative to Cellular Communications System, Report and Order, GEN Docket Nos. 84-1231, 84-1233, 84-1234, 2 FCC Rcd 1825, 1841 (1986), recon. denied, 2 FCC Rcd 6830 (1987).

⁴⁹ Id. at 1840.

⁵⁰ Id. at 1839. We note that this flexible use spectrum was never licensed. We ultimately reallocated this spectrum for narrowband PCS.

⁵¹ See generally Amendment of the Commission's Rules to Establish New Personal Communications Services, GEN Docket No. 90-314, Memorandum Opinion and Order, 9 FCC Rcd 5031 (1994).

⁵² A broad variety of services are permitted under PCS. See Section 24.3 of the Commission's Rules, which permits PCS licensees to "provide any mobile communications service on their assigned spectrum. Fixed services may be provided only if they are ancillary to mobile operations. Broadcasting as defined by the Communications Act is prohibited." 47 C.F.R. § 24.3.

Service.⁵³

23. *Footnote US245.* In the Second NPRM we noted that in addition to the Fixed and Mobile service allocation we have adopted in the First Report and Order, 4660-4685 MHz is allocated on a co-primary basis for non-government fixed-satellite service (FSS) space-to-Earth links, with use limited to international inter-continental systems and subject to a case-by-case electromagnetic analysis in accordance with US footnote 245 of the Table of Frequency Allocations. In the NOI in this proceeding we had requested comment on the necessity of maintaining the US245 restrictions on FSS use of this band, considering that it would no longer be available for Federal Government use.⁵⁴ We received no comments addressing this issue in response to the NOI. To facilitate the shared use of this band, we proposed in the Second NPRM to maintain the restrictions set forth in US footnote 245 on use of 4660-4685 MHz and requested comments on this proposal. Commenters seeking the elimination of this restriction were asked to describe fully how FSS service use would be compatible with Fixed and Mobile GWCS services.

24. We received only one comment regarding our proposal to retain US footnote 245 of the Table of Frequency Allocations, in order to facilitate shared use of this band.⁵⁵ PCIA states that the retention of footnote US 245, which restricts fixed-satellite space-to-Earth links, is necessary to prevent interference to terrestrial based mobile services.⁵⁶ We will adopt our proposal in the Second NPRM and retain the restriction in this footnote.

25. *Public Safety.* Under the NTIAO Act, the Commission's plan for allocating and assigning former Federal Government spectrum must contain appropriate provisions to ensure not only the availability of frequencies for new services, but also "the safety of life and property in accordance with the policies of Section 1 of the [Communications Act]"⁵⁷ In the current record, APCO proposes designating at least a portion of the 4660-4685 MHz band for public safety mobile and aeronautical video operations. APCO asserts that law enforcement and other public safety agencies do not currently have any dedicated channels for live "bird's eye view" video operations, which it says would be valuable for emergency situations.⁵⁸

⁵³ We note that Broadcast Auxiliary services are not considered a Broadcasting service as defined in Section 2.1 of our Rules, 47 C.F.R. § 2.1.

⁵⁴ NOI, 9 FCC Rcd at 2177, n.23.

⁵⁵ See Second NPRM at para. 61.

⁵⁶ PCIA Comments at 3.

⁵⁷ Section 115(b)(2)(C) of the NTIAO Act, codified at 47 U.S.C. § 925(b)(2)(C).

⁵⁸ APCO Comments at 3.

26. We are firmly committed to ensuring that wireless and wired communications resources are deployed to promote the safety of life and property, as well as to carry out the other public interest goals of the Communications Act. The FCC and NTIA recently formed a Public Safety Wireless Advisory Committee to prepare a report on operational, technical and spectrum requirements of Federal, state and local public safety entities through the year 2010.⁵⁹ This Committee is expected to begin its work in the very near future. The plan we are developing for the 200 MHz or more of Federal Government spectrum scheduled to be reallocated to non-Government use over the next 10 years will contain provisions to address how the reallocated Federal Government spectrum can best be used to satisfy unmet national safety needs. We are directed by statute to submit and implement this plan one year after receipt of NTIA's Spectrum Reallocation Final Report, in early 1996.⁶⁰

27. The current record does not, however, provide a sound basis for concluding that any or all of the 4660-4685 MHz band should be assigned as APCO suggests. In its comments requesting a dedicated channel for public safety mobile and aeronautical video operations, APCO recognizes that public safety video operations are now possible through frequency sharing with amateurs and broadcasters.⁶¹ It also suggests that the public safety needs it identifies may be met by priority access to some video channels.⁶² Moreover, it is unclear whether these needs, to the extent they are not currently met and could not be met using current broadcast auxiliary allocations, require nationwide channel assignments. APCO's request appears to be based primarily on the needs of the Los Angeles County Sheriff's Department. The extent of the need for public safety mobile and aeronautical video channels in other parts of the Nation is unclear.

28. It is our hope and intent that the gaps we have identified in the current record regarding the scope of public safety needs for additional wireless spectrum, and how those needs might best and most efficiently be met, will spur public safety organizations and other interested parties to work together to help us develop an effective plan for using wireless communications to meet any unmet and future public safety needs. The FCC-NTIA Public Safety Wireless Advisory Committee will offer one useful forum for such efforts. One of the tasks undertaken by the advisory committee will be to identify spectrum for federal, state, and local public safety use. As part of that process, the advisory committee may explore potential public safety uses of the 4635-4660 MHz band. We expect to begin proceedings in the near future to allocate and establish rules for assigning this band, which consists of reallocated Federal Government spectrum which is scheduled to become available in January 1997. This

⁵⁹ See Letter from Director, Office of Management and Budget to Chairman, FCC, June 2, 1995 approving request for Public Safety Wireless Advisory Committee.

⁶⁰ See Section 115(b) of the NTIAO Act, codified at 47 U.S.C. § 925(b).

⁶¹ APCO Comments at 3.

⁶² *Id.* at 4.

band is directly adjacent to the 4660-4685 MHz band we are designating to GWCS in this Order and thus has essentially the same technical characteristics and potential uses. The record in the proceeding to allocate and assign the 4635-4660 MHz band should also provide information useful for developing an overall plan for allocating and assigning the reallocated Federal Government spectrum.

B. Use of Spectrum

29. **Background.** We expect that the General Wireless Communications Service will benefit the public by providing licensees the opportunity to use the spectrum in a variety of ways they find appropriate. In the Second NPRM, we tentatively concluded that it is likely that these uses will principally involve the provision of subscriber-based services. Based on this conclusion, we proposed to use competitive bidding as the assignment method for this spectrum if mutually exclusive applications are filed. Section 309(j)(2)(A) of the Communications Act provides that competitive bidding may be used by the Commission to assign spectrum if the "principal use" of the spectrum involves, or is reasonably likely to involve, the transmission or reception of communications signals to subscribers for compensation.⁶³

30. In the Competitive Bidding Second Report and Order, we established a general framework for evaluating whether particular service classifications can be considered to be used principally for the provision of subscriber-based services. We concluded therein that we will determine principal use by comparing the amount of non-subscription use made by the licensees in a service as a class with the amount of subscriber-based use "on the basis of information throughput, time, or spectrum."⁶⁴ We found that the competitive bidding assignment method is permissible if "at least a majority of the use of a Commission regulated service or class of service [is] for service to subscribers for compensation."⁶⁵ In arriving at this approach, we rejected the notion that we must examine individual applications to determine each licensee's intended use of the spectrum. In the Second NPRM we sought comment regarding whether that general framework should be used with regard to the

⁶³ See 47 U.S.C. § 309(j)(2)(A). See also Implementation of Section 309(j) of the Communications Act – Competitive Bidding, Second Report and Order, PP Docket No. 93-253, 9 FCC Rcd 2348, 2353 para. 30, (1994) (Competitive Bidding Second Report and Order), recon., Second Memorandum Opinion and Order, 9 FCC Rcd 7245 (1994) (Competitive Bidding Reconsideration Order).

⁶⁴ Id., 9 FCC Rcd at 2354. Given the fact that "there is no way to anticipate . . . all of the possible uses of the electromagnetic spectrum", we explicitly retained the discretion to use any of these measurement criteria in evaluating particular service classifications. Id. at 2354, n.21.

⁶⁵ Id. at 2354, para. 32.

assignment of spectrum in the 4660-4685 MHz band.⁶⁶

31. Based on the record, we tentatively concluded in the Second NPRM that the principal use of this spectrum under our proposed General Wireless Communications Service would involve, or was reasonably likely to involve, the receipt by the licensee of compensation from subscribers in return for enabling those subscribers to receive or transmit communications signals.⁶⁷ These subscriber-based services include interactive wireless cable and other wireless data, voice, and interactive services. A number of commenters also proposed uses of this spectrum that would not be subscriber-based, such as for broadcast auxiliary services. Accordingly, we requested further comment on this tentative conclusion. Commenters addressing this issue were requested to describe fully the service that they contemplated for the spectrum, whether the service would be Fixed or Mobile, and whether it would be private (for a licensee's internal use), commercial (subscriber-based), or non-common carriage but subscriber-based.

32. To help us make an accurate determination regarding the extent to which this spectrum will be used for subscriber-based services, we also requested that commenters describe their spectrum needs and provide an indication of the degree of competition expected within a particular geographic service area. Commenters were also expected to describe as accurately as possible the types of geographic areas in which they would anticipate operating (e.g., rural, urban, top 50 markets), since the likelihood of subscriber use may vary among geographic areas.

33. **Comments.** Most commenters say that the principal use of this spectrum will be subscription-based. A few of the commenters disagree with that conclusion. PCIA asserts that there is no record in this proceeding to support the conclusion that the band would be used primarily for subscriber-based services.⁶⁸ MSTV concurs, and states that among potential uses of GWCS only one, wireless cable, qualifies as a subscriber service. It claims there is no evidence in the record to support the conclusion that a majority of the band's uses will be subscriber-based, and that a mere assumption that this will be so does not satisfy the "reasonable likelihood" standard.⁶⁹ UTC also states that the only evidence in the record that the principal use of the spectrum will be for subscriber-based services are the comments of entities that expressed interest in using it for interactive video or wireless cable.⁷⁰

⁶⁶ See Competitive Bidding Second Report and Order, 9 FCC Rcd at 2353-54, paras. 30-36.

⁶⁷ Second NPRM, at para. 66.

⁶⁸ PCIA Comments at 3.

⁶⁹ MSTV Reply Comments at 5-6.

⁷⁰ UTC Comments at 6.

34. In contrast, Bell Atlantic and Leaco state that the band is likely to be used for such consumer-oriented applications as interactive video, and voice and data services.⁷¹ ATI also foresees the use of this band for subscriber-based wireless cable services.⁷² In-Flight's proposed ground-to-air video and audio service would also apparently be provided to subscribing airline passengers or the airlines themselves.

35. The only comments responding to our request for information regarding spectrum needs, the degree of competition in geographic service areas, or the geographic areas in which operations are likely to be established, were filed by Leaco and In-Flight. Leaco says it operates in rural areas of New Mexico and Texas and could use all 25 megahertz of the block to provide wireless voice, data, and video services in this region. It does not anticipate any competing licensees in those areas.⁷³ In-Flight states that it plans to seek a nationwide license and indicates that other companies may compete in providing nationwide ground-to-air services.⁷⁴

36. **Decision.** We believe it is likely that the principal use of this band will be for subscription services. A majority of the commenters support this view and indicate that they anticipate using GWCS spectrum for various types of wireless video, audio, and data transmission services, wireless cable, or for ground-to-air video. All of these services are likely to be subscriber-based and there may well be several entities seeking spectrum to compete in providing these services. Entities wishing to provide subscriber-based services also appear likely, at least in some cases, to seek nationwide licenses. For example, In-Flight states that it requires a nationwide license to provide ground-to-air video. We agree with In-Flight's assertion that it may well face competitors who also wish to provide services to subscribing airlines and their passengers, and those competitors are also likely to seek nationwide licenses for portions of the 4660–4685 MHz block.

37. By contrast, it is uncertain that non-subscriber-based users will seek or obtain GWCS spectrum. APCO indicates that GWCS would not accommodate the video operations of public safety agencies and others.⁷⁵ These views reinforce the likelihood that GWCS licensees are likely to provide primarily subscriber-based services. We reject the contention from PCIA and MSTV that the evidence in the record is not sufficient to support a finding that the principal use of a GWCS service in the 4660–4685 MHz band would be subscriber-

⁷¹ Bell Atlantic Comments at 3; Leaco Comments at 6-7.

⁷² ATI Comments at 2.

⁷³ Leaco Comments at 7.

⁷⁴ In-Flight Reply Comments at 7.

⁷⁵ APCO Comments at 4.

based services, and that GWCS would not be used primarily for such services.⁷⁶ PCIA and MSTV provide no basis for this conclusion and, as we have discussed, the record strongly supports the conclusion that GWCS will principally be used for subscriber-based services such as wireless cable, other voice, data, and video services, and ground-to-air video.

C. Assignment Method

38. **Background.** Sections 309(j)(1) and 309(j)(2) of the Communications Act⁷⁷ permit auctions where mutually exclusive applications for initial licenses or construction permits are accepted for filing by the Commission and where the principal use of the spectrum will involve or is reasonably likely to involve the receipt by the licensee of compensation from subscribers in return for enabling those subscribers to receive or transmit communications signals. As we explained above, we believe that the principal use of this spectrum will meet these requirements.⁷⁸ In addition, Section 309(j)(2)(B) requires the Commission, before it may adopt the use of auctions to award licenses, to determine that use of competitive bidding will promote the objectives described in Sections 1 and 309(j)(3) of the Communications Act.

39. In the Second NPRM, we tentatively concluded that the use of competitive bidding to assign licenses in the 4660-4685 MHz band would promote these objectives.⁷⁹ We explained that auctioning licenses in this band is likely to lead to more speedy initiation of services than would use of comparative hearings, and that auctions will place licenses in the hands of those who value the spectrum most highly. Thus, competitive bidding would promote the availability, to all the people of the United States, of a rapid, efficient, nationwide, and worldwide telecommunications system with adequate facilities at reasonable charges, satisfying the objectives of Section 1 and Section 309(j)(3) of the Communications Act.

40. We also requested comments on other possible assignment methods.⁸⁰ For example, if the principal use of the spectrum is found to be subscriber-based services, the only alternative to competitive bidding would be comparative hearings. On the other hand, we

⁷⁶ MSTV Reply Comments at 6, n.7.

⁷⁷ 47 U.S.C. §§ 309(j)(1), 309(j)(2).

⁷⁸ Based on this conclusion, we need not consider the comments of Ladybug Mountain PCS Corp. which recommends that, if the principal use of the spectrum does not involve subscriber-based services, the Commission should use comparative hearings rather than random selection to grant licenses.

⁷⁹ Second NPRM, at para. 69.

⁸⁰ Second NPRM, at paras. 70-75.

noted that if the principal use will not involve subscriber-based services, the Commission has discretion in cases of mutually exclusive applications to employ either lotteries or comparative hearings to assign licenses. We tentatively concluded that, in the latter case, a lottery system would be preferable to comparative hearings because it would expedite the grant of licenses and be capable of resulting in the provision of adequate service to users.⁸¹

41. **Comments.** We have already discussed comments addressing whether GWCS meets the initial statutory requirements for assignment by auction. As we have explained, the principal use of spectrum is reasonably likely to involve subscriber-based services, and thus GWCS is eligible for assignment by competitive bidding as well as by comparative hearings, in cases where mutually exclusive applications are filed. Most commenters apparently assume that mutually exclusive applications will be filed and that auctions should be used to assign licenses.⁸² None of the comments proposes the use of comparative hearings rather than auctions in the event that mutually exclusive applications are filed for GWCS licenses. Leaco states that it is not opposed to the competitive bidding process in general.⁸³ UTC questions whether auctions will lead to more rapid deployment of new technologies and services than other licensing schemes, in view of the fact that the PCS systems that were licensed by auction are not operational yet, and argues that the Interactive Video Data Service auction indicates that auction winners do not necessarily have an incentive to deploy service or new technology rapidly.⁸⁴ UTC does not, however, appear to propose comparative hearings.

42. **Decision.** We conclude that, in cases of mutually-exclusive applications, GWCS spectrum should be assigned by auction, as we tentatively concluded in the Second NPRM. Based on our experience with comparative hearings, lotteries, and auctions, we believe that auctions will in this case achieve the statutory objectives of Section 309(j)(3) of the Communications Act.

43. Section 309(j)(3) of the Communications Act sets forth Congress's four objectives for competitive bidding, as follows:⁸⁵

(A) the development and rapid deployment of new technologies, products, and services for the benefit of the public, including those residing in rural areas, without administrative or judicial delays;

⁸¹ Second Notice, at para. 75.

⁸² See, e.g., SBA Comments at 1-3; Bell Atlantic Comments at 1-3.

⁸³ Leaco Comments at 7. Leaco does request several revisions to the proposed auction rules to ensure that rural areas obtain service. See e.g., para. 56 infra.

⁸⁴ UTC Comments at 7.

⁸⁵ See 47 C.F.R. § 309(j)(3).

(B) promoting economic opportunity and competition and ensuring that new and innovative technologies are readily accessible to the American people by avoiding excessive concentration of licenses and by disseminating licenses among a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women;

(C) recovery for the public of a portion of the value of the public spectrum made available for commercial use and avoidance of unjust enrichment through the methods employed to award uses of that resource; and

(D) efficient and intensive use of the electromagnetic spectrum.

44. We believe that using a system of competitive bidding for assignments in the 4660-4685 MHz band will promote these four objectives. First, our experience with the use of auctions to award licenses to provide both narrowband and broadband PCS demonstrates that auctions will, more quickly than other licensing schemes, lead to the development and rapid deployment of new technologies, products, and services, thus satisfying the objective expressed in Section 309(j)(3)(A). UTC's suggestion that the Commission has no experience to declare that auctions will lead to more rapid deployment of service or technology, because PCS systems are not operational yet, ignores the advantages of auctions over comparative hearings and lotteries. The licensing of PCS has proceeded far more rapidly than would have been the case if we had used comparative hearings or lotteries.⁸⁶ We expect that an auction of GWCS spectrum will produce similar benefits in assigning spectrum to qualified licensees as quickly as possible.

45. Second, we have in this Order adopted competitive bidding rules that will advance the objectives of Section 309(j)(3)(B) relating to the promotion of economic opportunity and the dissemination of licenses among a wide variety of applicants. These rules include the channelization of the block, limitations on ownership, geographic license areas, and provisions for partitioning of licenses.

46. Third, use of auctions to assign 4660-4685 MHz band licenses clearly advances the goals of Section 309(j)(3)(C) by enabling us to recover for the public a portion of the value of the public spectrum and avoid problems of unjust enrichment. Finally, as we stated in the Competitive Bidding Second Report and Order, auctions tend "to reinforce the desire of licensees to make efficient and intensive use of . . . spectrum. Auctions make explicit what others are willing to pay to use the spectrum, and the licensees' need to recoup the out-of-pocket expenditure for a license should provide additional motivation to get the most value

⁸⁶ See, e.g., "FCC Grants 99 Licenses for Broadband Personal Communications Services in Major Trading Areas," FCC News Release, June 23, 1995.

out of the spectrum."⁸⁷ We anticipate that the system of competitive bidding we are adopting in this Order will lead to the issuance of licenses to those parties who value the licenses most highly and who thus can be expected to make efficient and intensive use of the spectrum, as contemplated by Section 309(j)(3)(D).

47. One important aspect of any assignment method is determining whether applications are mutually exclusive. In the Second NPRM, we proposed to use a 30-day filing window or other application cut-off method to allow for competing applications. We also sought comment on whether some other type of filing system would be more appropriate for determining whether initial applications are mutually exclusive. None of the commenters addresses this issue, except UTC, or suggests alternatives to the proposed 30-day filing window. UTC expresses no opinion as to the allocation of the 4660-4685 MHz band, but contends that the GWCS proposal constitutes "allocation by auction," which it opposes. UTC further contends that the proposed 30-day filing window represents one aspect of an attempt to encourage the filing of mutually exclusive applications, a precondition of auctions, rather than proposing solutions to avoid mutual exclusivity.⁸⁸ We have discussed the rationale and legal basis for allocating this spectrum to Fixed and Mobile services and for designating it for the GWCS in the Second Notice and elsewhere in this Report and Order. UTC does not propose any other application method or period, and we believe that the 30-day filing window will provide a fair and reasonable opportunity for entities seeking to obtain GWCS licenses. We will adopt the 30-day filing window as proposed for GWCS applications.

D. Channelization; Aggregation

48. **Background.** In the Second NPRM, we proposed that the 4660-4685 MHz band be licensed in five blocks, each of which would be 5 megahertz wide. We also proposed to permit licensees to obtain multiple 5 megahertz blocks. Based on available information about the likely services to be provided in this band, we tentatively concluded that no licensee would need more than 15 megahertz in a single market area. Therefore, we proposed to limit a single entity from obtaining more than three of these blocks in a single geographic licensing area. We also proposed that, regardless of the specific service to be provided, this spectrum will not count against the 45 megahertz spectrum cap that applies to certain commercial mobile radio service (CMRS) licensees, noting that the equipment to provide service competitive with CMRS is not now available for this higher frequency band, and that this allocation for single, unpaired bands is not likely to be competitive with other two-way CMRS services using paired frequency bands in the near future.⁸⁹

⁸⁷ Competitive Bidding Second Report and Order, 9 FCC Rcd at 2358.

⁸⁸ UTC Comments at 7.

⁸⁹ Implementation of Sections 3(n) and 332 of the Communications Act -- Regulatory Treatment of Mobile Services, Third Report and Order, GN Docket No. 93-252, 9 FCC Rcd 7988, 8109-10, para. 263 (1994), recon. pending. The spectrum cap currently applies to

49. **Comments.** Leaco, opposing our limitation proposal, states that a limit on the amount of GWCS spectrum used for interactive video would be detrimental to rural providers seeking to use the technology for the provision of interactive video services in rural areas.⁹⁰ Bell Atlantic also supports setting no limits on the number of blocks bidders may acquire. It also agrees that this spectrum should not be counted against the 45 MHz spectrum cap that applies to certain CMRS licensees.⁹¹ In contrast, ATI and WCAI support a 10 megahertz limit that is stricter than the 15 megahertz limit proposed by the Commission. ATI and WCAI contend that a 10 megahertz limit would assure that there are at least three wireless cable service providers in each geographic area.⁹²

50. **Decision.** We adopt the proposed channelization plan consisting of five 5 megahertz blocks. We also adopt the proposed aggregation limit of 15 megahertz of spectrum that may be obtained by a single entity. This limit will ensure that at least two competing entities will be able to provide GWCS-based services in each license area, helping achieve the statutory goals of encouraging competition and avoiding excessive concentration of licenses. At the same time, this 15 megahertz limit should permit licensees to acquire adequate spectrum to provide effective services. The 10 MHz limit proposed by ATI and WCAI is based on the assumption that only wireless cable providers will operate under GWCS and is, therefore, overly restrictive. The 15 megahertz aggregation limit will permit this level of competition while allowing flexibility that may be useful for some service plans, now and in the future. We believe further that competition may well be possible in many rural areas. Leaco presents no evidence to support a need for permitting the monopolization of this spectrum by rural telephone companies, and we expect encouraging competition will be beneficial, not detrimental to rural customers. We also adopt our tentative conclusion not to count this spectrum against the 45 megahertz spectrum cap that applies to certain CMRS licenses. As we indicated in the Second NPRM, we do not expect that it will be feasible to offer GWCS services that are competitive with existing and planned CMRS services in the near future. As wireless technology and services develop, however, we may consider revisions to the CMRS spectrum cap, other spectrum aggregation rules, and standards for review of mergers or acquisitions that may affect the concentration of spectrum, in order to ensure vigorous competition in wireless services and to implement the Communications Act.

E. License Areas

broadband personal communications services, specialized mobile radio services, and cellular services.

⁹⁰ Leaco Comments at 10.

⁹¹ Bell Atlantic Comments at 3-4.

⁹² ATI Comments at 2-4; WCAI Comments at 5-7.

51. **Background.** Under our Fixed and Mobile allocation, we proposed that all licenses issued be based on 51 Major Trading Areas (MTA) and MTA-like areas.⁹³ We also expressed our concern regarding the importance of providing areas small enough to deploy "niche" services, or services aimed at rural or relatively rural areas, while providing a large enough area for those licensees that wish to provide wide-area or regional service. We tentatively concluded that MTAs provide the best compromise in this situation. We did not propose to restrict the number of MTAs in which a party may obtain a license. Thus, under our proposal a licensee would be permitted to aggregate licenses to offer a regional or nationwide service.

52. On the other hand, because the MTA may be too large for some licensees, we proposed to permit licensees to lease the rights to operate a general wireless communication system within portions of their authorized geographic service area or transfer a portion of their license to partition their service area geographically, allowing another party to be licensed in the partitioned area. As stated in the Second NPRM, such a transfer would be subject to Commission approval as required by the Communications Act.⁹⁴ In particular, we requested that commenters address specific procedures for leasing or partitioning a geographic area. For example, we asked whether the Commission should use partitioning procedures similar to those used for cellular licenses and adopted for broadband PCS licenses. Entities that believe that licensing should be based on areas other than MTAs were asked to support their alternative proposal.

53. **Comments:** RMC objects to the use of MTA or BTA listings without a license agreement.⁹⁵ The majority of the GWCS supporters oppose licensing on an MTA basis and propose smaller license regions. ATI opposes MTAs, and instead recommends the use of

⁹³ MTAs are defined in the Rand McNally 1992 Commercial Atlas & Marketing Guide 36-39 (123d ed. 1992). There are 47 MTAs, as defined by Rand McNally. Following the approach we have taken with regard to other services in which we have used MTA license areas, we proposed in the Second NPRM to separate Alaska from the Seattle, Washington, MTA so that Alaska would be licensed as a separate MTA-like area. We also proposed to license separately the following additional MTA-like areas:

- (1) Guam and the Northern Marianas Islands.
- (2) Puerto Rico and the United States Virgin Islands.
- (3) American Samoa.

Thus, we proposed to license a total of 51 MTA or MTA-like areas on each spectrum block.

⁹⁴ See 47 U.S.C. § 310(d).

⁹⁵ RMC Comments, passim.

smaller service areas such as Metropolitan Statistical Areas (MSAs) or Rural Service Areas (RSAs), which it contends would better promote deployment of the "niche" services and services aimed at rural or relatively rural areas. ATI supports the Commission's tentative conclusion in the Second NPRM to use combinatorial bidding procedures and urges the Commission to implement MSA and RSA service areas, or at most BTA service areas, along with combinatorial bidding. ATI contends that use of anything larger than BTA service areas will defeat the Commission's objective of providing for a wide variety of usage within the GWCS.⁹⁶ PCIA believes that it may be more appropriate to use the Economic Areas (EAs) developed by the Bureau of Economic Analysis (BEA), Department of Commerce. PCIA states that EAs better approximate the natural radio usage patterns of users.⁹⁷

54. Leaco submits that under specific circumstances (i.e., in rural areas where competition does not exist) market forces do not ensure that spectrum is awarded to those who value it most. By auctioning large market areas, Leaco argues, the Commission lumps rural areas, where auctions might not be required because of the lack of mutually exclusive applications, with highly competitive urban areas where mutually exclusive applications are sure to exist. Leaco suggests that licenses be awarded using cellular MSAs and RSAs.⁹⁸ For those providers serving larger areas, adjacent geographic areas could be consolidated. WCAI also supports the use of MSA and RSAs, stating that before an MTA can be partitioned, it must be acquired at auction. WCAI argues that it is asking too much of an entity that contemplates providing a local service to expect it to make the financial commitment necessary to acquire an MTA, even if that entity can then recoup part of its cost through partitioning. It is more reasonable to provide for smaller licensing areas, while affording those that desire to serve larger areas the opportunity to accumulate contiguous areas.⁹⁹ While deferring to the FCC's discretion to award spectrum on an MTA basis, the U.S. Small Business Administration "generally supports awards of licenses on a Basic Trading Area (BTA) basis because it requires less capital to obtain a license and construct an operational system."¹⁰⁰

55. Only Bell Atlantic and In-Flight support MTAs. In reply comments, In-Flight contends that partitioning will meet the objective that proponents of small service areas desire, and that it would be inequitable to award GWCS licenses to serve smaller areas than MTAs because those interested in applying for a nationwide license have no option but GWCS, while those interested in mobile GWCS in rural areas have the option of applying for

⁹⁶ ATI Comments at 3-4.

⁹⁷ PCIA Comments at 4.

⁹⁸ Leaco Comments at 11.

⁹⁹ WCAI Comments at 7-9.

¹⁰⁰ SBA Comment at 3.

PCS licenses.¹⁰¹ Bell Atlantic states that the Commission's proposal to base license areas on MTAs has proved successful to date in the PCS arena and should be adopted here as well, along with partitioning.¹⁰²

56. **Decision.** We will issue GWCS licenses based on EA-like geographic areas. Use of the smaller EA areas, as created and maintained by the U.S. Department of Commerce's Bureau of Economic Affairs, appears to be more consistent with the likely uses of GWCS licenses than use of MTAs and will increase opportunities for small businesses and other designated entities to obtain GWCS licenses. We agree with PCIA that the BEA Economic Areas approximate the natural radio usage patterns of users, as the boundaries of those areas are based on local area economic activity, local interindustry economic relationships, and internal population movements such as commuting patterns. Use of EAs will in addition address Leaco's concerns, facilitating the provision of wireless GWCS services in rural areas. EA-based licenses also avoid the copyright problems and issues associated with MTAs. With the 172 EAs, plus 3 EA-like areas for Guam and the Northern Marianas, Puerto Rico and the United States Virgin Islands, and American Samoa, we will be awarding 875 licenses (five 5 MHz blocks in 175 EAs), more than three times as many licenses as would have been awarded using MTA-based regions. As the comments indicate, this change will allow more opportunities for designated entities to obtain licenses, and at lower cost for each license. We do not believe use of EAs will be unfair to licensees seeking to provide regional or nationwide service. Those entities will have the opportunity to aggregate licenses to serve those areas, and we are adopting bidding procedures that should be fair to small and large bidders alike.

57. The complete list of EA and EA-like areas is shown in Appendix C. The five 5 MHz blocks will be designated as Blocks A through E: Block A (4660-4665 MHz), Block B (4665-4670 MHz), Block C (4670-4675 MHz), Block D (4675-4680 MHz) and Block E (4680-4685 MHz). This configuration of licenses should contribute to competition and flexibility in use of these licenses.

F. Eligibility

58. **Background.** In the Second NPRM, we proposed, in the event we determined that it is reasonably likely that GWCS services would be commercial services, that there be no restrictions on eligibility to apply for licenses in this band other than those foreign ownership restrictions that apply to CMRS and common carrier fixed system licensees,¹⁰³ and the restriction on foreign governments or their representatives related to the holding of

¹⁰¹ In-Flight Reply Comments at 6.

¹⁰² Bell Atlantic Comments at 4.

¹⁰³ 47 U.S.C. § 310(b).